

REMARKS

Initially, Applicant wishes to thank the Examiner for the thorough examination and extremely detailed Office Action explaining the Examiner's rationale for rejection of the claims. Although the Applicant disagrees with the Examiner's ultimate conclusions, the detailed comments provided by the Examiner have indicated to the Applicant where the specific areas of disagreement lie. As a result, this response concentrates on the disputed issues to more effectively resolve these disagreements.

In the outstanding office action, the Examiner rejected claims 1-21. By this amendment, Applicant amends claim 21 (a marked-up version of the amended claim is attached as an appendix to this document). Claims 1-21 are pending and under consideration.

Regarding the Specification

Portions of the specification were textually edited to enhance readability of the overall patent application. These changes do not introduce new matter.

Rejection of Claim 21 Under 35 U.S.C. § 112

The Examiner rejected claim 21 under 35 U.S.C. § 112 because the claim limitation "the optical compensation sheet" lacked antecedent basis. It is respectfully submitted that amended claim 21 fully satisfies the statute. Specifically, claim 21 now recites "the optical compensation sheet **of claim 1**".

Rejection Under 35 U.S.C. § 102(e) of Claim 21

The Examiner rejected claim 21 under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Pat. No. 6,064,457 to Aminaka ("Aminaka"). Office Action at page 2. Applicant respectfully traverses this rejection. Claim 21, as amended, recites "A polarizing plate for elliptically polarized light comprising the optical compensation sheet of claim 1." Aminaka does not disclose the optical compensation sheet as recited in claims 21 and 1. As a result, Aminaka does not disclose each and every limitation of the claim. MPEP 2131.

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Rejection Under 35 U.S.C. § 103(a) of Claims 1-18

The Examiner rejected claims 1-18 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Pat. No. 6,400,433 to Arakawa, et al., ("Arakawa") in view of U.S. Pat. No. 5,990,997 to Jones, et al., ("Jones") in further view of Aminaka and U.S. Pat. No. 5,805,253 to Mori, et al. ("Mori"). Office Action at pages 3 to 10.

Applicant respectfully traverses this outstanding rejection. Regarding the present invention, claim 1, among other things, states: "one of the two optically anisotropic layers, when the optically anisotropic compound is uniaxial, is oriented so that a first angle of the optic axis of the uniaxial optically anisotropic compound to the optical compensation sheet place increases continuously or stepwise in the thickness direction of the optical compensation sheet..." To paraphrase, the manner of orientation of the optically anisotropic compound is such that the first or second angle in one of the two optically anisotropic layers increases in the thickness direction, and the corresponding angle in the other optically anisotropic layer decreases in the thickness direction.

Arakawa, however, does not disclose the claimed orientation of the invention and, in fact, teaches away from it. For example, the specification of Arakawa states that the liquid crystal molecules should be "uniformly aligned in an optically anisotropic layer, more preferably fixed in the optically anisotropic layer while keeping the uniform alignment..." (see Arakawa, Col. 12, lines 24-27). Thus, the orientation of the liquid crystal molecules in Arakawa is different from the orientation of the liquid crystal molecules in the present invention and none of the cited prior art remedies that fundamental deficiency. MPEP 2143.03. Applicant respectfully requests the Examiner to withdraw the rejection for at least this reason.

Moreover, claim 1 of the present application recites that "the other optically anisotropic layer, when the optically anisotropic compound is uniaxial, is oriented so that the first angle decreases continuously or stepwise in the thickness direction of the optical compensation sheet, or when the optically anisotropic compound is biaxial, is oriented so that the second angle decreases continuously or stepwise in the thickness direction of the optical compensation sheet." Although the Examiner

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argued that Jones has retarder incline angles that vary either continuously or intermittently through the retarder's thickness (Office Action at page 4), Jones simply describes that the incline angles vary through the retarder thickness, and does not disclose the manner in which the incline angles vary nor the same orientation of the invention. As a result, Jones does not teach or suggest the elements required by the claims but missing from Arakawa. MPEP 2143.03.

Claims 2-18 all depend from claim 1. Thus, these claims are allowable for at least the same reasons discussed above for claim 1.

Rejection Under 35 U.S.C. § 103(a) of Claims 19-20

The Examiner rejected claims 19-20 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Arakawa in view of Jones in further view of Aminaka. Office Action at pages 2 to 11.

Applicant respectfully traverses this rejection. As the Examiner notes, "[t]he analysis pertaining to claim 1 applies to claim 19" (Office Action at page 11). Applicant therefore respectfully submits that the analysis above regarding claim 1 applies to claim 19 as well. Accordingly, it would not have been obvious to one of ordinary skill in the art to modify Arakawa in view of Jones in further view of Aminaka to attain the subject matter of claim 19 of the present invention.

Claim 20 depends from claim 19. Thus, this claim is allowable for at least the same reason discussed above for claim 19.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

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Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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Appendix

Version of Amendments With Markings to Show Changes Made

IN THE SPECIFICATION:

At page 1, amend the first full paragraph to read as follows:

The present invention relates to an [optically] optical compensation sheet and a liquid crystal display.

At page 1, amend the second, third and fourth paragraphs to read as follows:

The following [three constitutions] examples (or "constitutions") as described below have been proposed as an [optically] optical compensation sheet for obtaining a wide viewing angle of a liquid crystal display[.]:

(1) a method providing a discotic liquid crystal compound, which is a negative uniaxial compound, on a support;

(2) a method of providing on a support a nematic polymeric liquid crystal compound with a positive optical anisotropy, which is subjected to hybrid orientation in which the pretilt angle of the liquid crystal molecules varies in the thickness direction; and

At page 2, amend the first, second, third and fourth full paragraphs as follows:

(3) a method providing on a support two layers containing a nematic liquid crystal compound with a positive optical anisotropy, in which the orientation direction of the layers crosses each other at approximately 90 degrees, so that an optical property approximate to a negative uniaxial optical property is obtained.

However, the above [constitutions] examples (or "constitutions") have the following problems.

Method (1) shows a defect specific to a discotic liquid crystal compound in that, in a TN mode liquid crystal display panel employing the discotic liquid crystal

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compound, the displayed image appears [yellowish] yellow when viewing the panel obliquely.

In [the] method (1), [a] the temperature developing [a] the liquid crystal is high and therefore orientation cannot be fixed on an isotropic transparent support such as TAC (cellulose triacetate). [this] This requires additional processing, in which a liquid crystal compound is oriented and fixed on a first support[,] and transferred onto a second support such as TAC. [this] Since this processing is more complex, it [resulting] results in [lowering of] lower productivity.

At pages 3 to 4, amend the first full paragraph and the carry-over paragraph as follows:

Accordingly, method (3) above is extremely advantageous [in usage] for use in a liquid crystal TV (television) giving priority to color reproduction, since there is no problem [of] related to a yellowing occurring [in] with the use of a discotic liquid crystal compound.

Although the use of the discotic liquid crystal compound requires only one layer, [however,] method (3) requires two liquid crystal compound layers, [resulting] which results in [lowering of] lower efficiency.

At page 4, amend the first full paragraph as follows:

However, the above three methods have[, in] a common[, a] fundamental problem. [That is, in order to obtain optical compensation ability, these methods] They require an optical compensation sheet to be provided on both sides of, for example, a liquid crystal cell in order to achieve optical compensation, resulting in a cost increase. [This means that even the method for employing an optical compensation sheet, which is convenient for improving viewing angle, results in a cost increase.] Further, [In] in these methods, the use of one optical compensation sheet destroys symmetry, and results in asymmetry of the viewing angle. For example, when the optical compensation sheet[,] is arranged so that the rubbing axis [of which] is rotated 45 degrees, [is arranged,] symmetry may be improved but the viewing angle property is not improved. There have been no proposals in which the

use of only one optical compensation sheet improves the viewing angle property to the same degree as or more than the use of two optical compensation sheets.

At page 6, amend the sixth, seventh, eighth and ninth full paragraphs as follows:

[Fig. 10] Figs. 10(a) and 10(b) [shows] show [one] two [embodiment] embodiments of preferable layer structures used in the liquid crystal display of the invention.

[Fig. 11] Figs. 11(a) and 11(b) [shows] show [one] two [embodiment] embodiments of preferable layer structures used in the liquid crystal display of the invention.

[Fig. 12] Figs. 12(a) and 12(b) [shows] show [one] two [embodiment] embodiments of preferable layer structures used in the liquid crystal display of the invention.

[Fig. 13] Figs. 13(a) and 13(b) [shows] show [one] two [embodiment] embodiments of preferable layer structures used in the liquid crystal display of the invention.

At page 7, amend the first full paragraph as follows:

[Fig. 14] Figs. 14(a) and 14(b) [shows] show [one] two [embodiment] embodiments of preferable layer structures used in the liquid crystal display of the invention.

IN THE CLAIMS:

21. (Once Amended) A polarizing plate for elliptically polarized light comprising the optical compensation sheet of claim 1.

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